

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. **(Currently Amended)** A method of communicating a data stream through a telecommunications system comprising:
 - receiving said data stream at a communications interface of said telecommunications system, wherein said data stream comprises a first plurality of words;
 - rearranging said data stream into a second plurality of words, wherein said second plurality of words include a relock word, and said relock word is configured to allow said telecommunications system to synchronize with said data stream; ~~and~~
 - for each of said second plurality of words,
 - determining if said each of said second plurality of words should be included in a backplane parity value calculation ~~the generation of a backplane parity value~~ by determining if said each of said second plurality of words is said relock word; ~~and~~
 - excluding said each of said second plurality of words from said backplane parity value calculation if said each of said second plurality of words is determined to be said relock word.

2. **(Currently Amended)** The method of claim 1, further comprising:
 - for said each of said second plurality of words,
 - ~~ignoring said each of said second plurality of words, if said each of said second plurality of words is said relock word, and~~
 - including said each of said second plurality of words in said backplane parity value calculation if said each of said second plurality of words is determined to not be said relock word[[, otherwise]].

3. **(Currently Amended)** The method of claim 2, wherein said backplane parity value calculation comprises:

calculating ~~said~~ a backplane parity value by performing a bit-wise exclusive-or between said each of said second plurality of words included in said backplane parity value calculation, wherein said each of said second plurality of words included in said backplane parity value calculation is a byte.

4. **(Previously Presented)** The method of claim 2, wherein said first plurality of words is organized as a first frame having a first frame format and said second plurality of words is organized as a second frame having a second frame format.

5. **(Previously Presented)** The method of claim 4, wherein said relock word is among a plurality of such relock words and said second frame includes said plurality of such relock words.

6. **(Previously Presented)** The method of claim 2, wherein said telecommunications system includes a switching matrix coupled to said communications interface, and said switching matrix switches during a period of time during which said relock word traverses said switching matrix.

7. **(Currently Amended)** A method of transmitting information through a switching matrix comprising:

receiving information, wherein

said information is in a transmission unit,

said transmission unit is divided into a plurality of words, and

said plurality of words are arranged in a first format;

rearranging said a plurality of ~~said~~ words into a second format wherein

said second format includes a relock word,

said relock word is configured to allow said switching matrix to synchronize with said transmission unit; and

generating a backplane parity value from at least one of said plurality of ~~said~~ words, said generating comprising
 for each of said plurality of words, determining if said each of said plurality of words should be used to generate said backplane parity value by
 determining if said each of said plurality of words is said relock word, and excluding said each of said plurality of words from a calculation of said backplane parity value if said each of said plurality of words is determined to be said relock word.

8. **(Original)** The method of claim 7, wherein said information is received as an optical signal.
9. **(Original)** The method of claim 7, wherein said transmission unit is a frame.
10. **(Original)** The method of claim 9, wherein said frame is a SONET frame.
11. **(Original)** The method of claim 9, wherein said rearranging rearranges said transmission unit into a backplane frame.
12. **(Currently Amended)** The method of claim 7, wherein said backplane parity value is a backplane parity byte.
13. **(Currently Amended)** The method of claim 12, wherein each one of said plurality of words is a byte, and said generating comprises calculating said backplane parity value by performing a bit-wise exclusive-or between said plurality of words.
14. **(Original)** The method of claim 7, wherein said second format allows said switching matrix to be switched errorlessly.
15. **(Canceled)**
16. **(Canceled)**

17. **(Previously Presented)** The method of claim 7, wherein said switching matrix is switched during a period of time during which said relock word is traversing said switching matrix.

18. **(Currently Amended)** A computer program product encoded in computer readable media for communicating a data stream through a telecommunications system, said computer program product comprising:

a first set of instructions, executable on a computer system, configured to cause a communications interface of said telecommunications system to receive said data stream, wherein said data stream comprises a first plurality of words;

a second set of instructions, executable on said computer system, configured to rearrange said data stream into a second plurality of words, wherein said second plurality of words include a relock word, and said relock word is configured to allow said telecommunications system to synchronize with said data stream; ~~and~~

a third set of instructions, executable on said computer system, configured to, for each of said second plurality of words,

determine if said each of said second plurality of words should be included a backplane parity value calculation in the generation of a backplane parity value by determining if said each of said second plurality of words is said relock word, and

exclude said each of said second plurality of words from said backplane parity value calculation if said each of said second plurality of words is determined to be said relock word.

19. **(Currently Amended)** The computer program product of claim 18, said computer program product further comprising:

a fourth set of instructions, executable on said a computer system, configured to, for said each of said second plurality of words,

~~ignore said each of said second plurality of words, if said each of said second plurality of words is said relock word, and~~

include said each of said second plurality of words in said backplane parity value calculation if said each of said second plurality of words is determined to not be said relock word[[, **otherwise**]].

20. **(Currently Amended)** The computer program product of claim 19, wherein said backplane parity value calculation comprises:

calculating ~~said~~ a backplane parity value by performing a bit-wise exclusive-or between said each of said second plurality of words included in said backplane parity value calculation, wherein said each of said second plurality of words included in said backplane parity value calculation is a byte.

21. **(Previously Presented)** The computer program product of claim 19, wherein said first plurality of words is organized as a first frame having a first frame format and said second plurality of words is organized as a second frame having a second frame format.

22. **(Previously Presented)** The computer program product of claim 21, wherein said relock word is among a plurality of such relock words and said second frame includes said plurality of such relock words.

23. **(Previously Presented)** The computer program product of claim 19, wherein said telecommunications system includes a switching matrix coupled to said communications interface, and said switching matrix switches during a period of time during which said relock word traverses said switching matrix.

24. **(Currently Amended)** A telecommunications system comprising:
a processor;
a communications interface, coupled to said processor;
computer readable medium coupled to said processor; and
computer code, encoded in said computer readable medium, configured to cause a data stream to be communicated through said telecommunications system by virtue of being configured to cause said processor to:

receive said datastream at said communications interface, wherein said data stream comprises a first plurality of words;
 rearrange said data stream into a second plurality of words, wherein said second plurality of words include a relock word, and said relock word is configured to allow said telecommunications system to synchronize with said data stream; ~~and~~
 for each of said second plurality of words,
 determine if said each of said second plurality of words should be included in a backplane parity value calculation ~~the generation of a backplane parity value~~ by determining if said each of said second plurality of words is said relock word; ~~and~~
exclude said each of said second plurality of words from said backplane parity value calculation if said each of said second plurality of words is determined to be said relock word.

25. **(Currently Amended)** The telecommunications system of claim 24, wherein said computer code is further configured to cause said processor to:
 for said each of said second plurality of words,
~~ignore said each of said second plurality of words, if said each of said second plurality of words is said relock word, and~~
 include said each of said second plurality of words in said backplane parity value calculation if said each of said second plurality of words is determined to not be said relock word[, otherwise]].

26. **(Currently Amended)** The telecommunications system of claim 25, wherein said backplane parity value calculation comprises:
 calculating ~~said~~ a backplane parity value by performing a bit-wise exclusive-or between said each of said second plurality of words included in said backplane parity value calculation, wherein said each of said second plurality of words included in said backplane parity value calculation is a byte.

27. **(Previously Presented)** The telecommunications system of claim 25, wherein said first plurality of words is organized as a first frame having a first frame format and said second plurality of words is organized as a second frame having a second frame format.
28. **(Previously Presented)** The telecommunications system of claim 27, wherein said relock word is among a plurality of such relock words and said second frame includes said plurality of such relock words.
29. **(Previously Presented)** The telecommunications system of claim 25, further comprising:
a switching matrix coupled to said communications interface, wherein
said switching matrix is configured to switch during a period of time during
which said relock word traverses said switching matrix.
30. **(Currently Amended)** A telecommunications system comprising:
means for receiving a datastream, wherein said data stream comprises a first plurality of words;
means for rearranging said data stream into a second plurality of words, wherein
said second plurality of words include a relock word, and
said relock word is configured to allow said telecommunications system to
synchronize with said data stream; ~~and~~
means ~~for determining~~, for each of said second plurality of words,
for determining if said each of said second plurality of words should be included
in a backplane parity value calculation ~~the generation of a backplane~~
~~parity value~~ by determining if said each of said second plurality of words
is said relock word; and
for excluding, for each of said second plurality of words, said each of said second
plurality of words from said backplane parity value calculation if said each
of said second plurality of words is determined to be said relock word.

31. **(Currently Amended)** The telecommunications system of claim 30, further comprising:
means, for said each of said second plurality of words,
~~for ignoring said each of said second plurality of words, if said each of said~~
~~second plurality of words is said relock word, and~~
for including said each of said second plurality of words in said backplane parity
value calculation if said each of said second plurality of words is
determined to not be said relock word[[, **otherwise**]].
32. **(Currently Amended)** The telecommunications system of claim 31, wherein said
backplane parity value calculation comprises:
calculating ~~said~~ a backplane parity value by performing a bit-wise exclusive-or between
said each of said second plurality of words included in said backplane parity value
calculation, wherein said each of said second plurality of words included in said
backplane parity value calculation is a byte.
33. **(Previously Presented)** The telecommunications system of claim 31, wherein said first
plurality of words is organized as a first frame having a first frame format and said second
plurality of words is organized as a second frame having a second frame format.
34. **(Previously Presented)** The telecommunications system of claim 33, wherein said relock
word is among a plurality of such relock words and said second frame includes said plurality of
such relock words.
35. **(Previously Presented)** The telecommunications system of claim 31, further comprising:
switching means for switching said data stream, wherein
said switching means is coupled to said means for receiving, and
said switching means is configured to switch during a period of time during which
said relock word traverses said switching means.

36. **(Currently Amended)** A telecommunications system comprising:
 a switching matrix;
 a communications interface, wherein
 said communications interface is coupled to said switching matrix,
 said communications interface is configured to receive a data stream comprising a plurality of words,
 said plurality of words include at least one word that is designated as a relock word,
 said switching matrix is configured to be switched without causing disruption of another data stream being communicated through said switching matrix by switching during a period of time during which said at least one word traverses said switching matrix; and
 a parity generation circuit, coupled to said communications interface and configured to ~~determine~~, for each of said plurality of words, to determine if said each of said plurality of words should be used to generate a backplane parity value by determining if said each of said plurality of words is said at least one word, and exclude said each of said plurality of words from a calculation of said backplane parity value if said each of said plurality of words is determined to be said at least one word.
37. **(Currently Amended)** The telecommunications system of claim 36, wherein said parity generation circuit comprises:
 a parity function unit, wherein said parity function unit is configured to generate a said backplane parity value; and
 a position detector, coupled to said parity function unit, ~~wherein~~ said position detector is and configured to cause said parity function unit to include one of said words in said ~~generation~~ calculation of said backplane parity value if said one of said words is determined to not be said at least one word.

38. **(Canceled)**
39. **(Canceled)**
40. **(Previously Presented)** The telecommunications system of claim 36, wherein said communications interface is further configured to:
insert said backplane parity value into said data stream; and
communicate said data stream through said switching matrix.
41. **(Previously Presented)** The telecommunications system of claim 36, wherein said communications interface further comprises:
a frame assembly unit, coupled to an input and an output of said communications interface.
42. **(Previously Presented)** The telecommunications system of claim 41, wherein said frame assembly unit is configured to allow insertion of said backplane parity value into said data stream, and
said communications interface is configured to communicate said data stream through said switching matrix.
43. **(Previously Presented)** The telecommunications system of claim 41, further comprising:
a parity checking circuit, wherein
said communications interface comprises a receive section coupled to an input of said switching matrix and a transmit section coupled to an output of said switching matrix,
said receive section comprises said parity generation circuit, and
said transmit section comprises said parity checking circuit.
44. **(Currently Amended)** The telecommunications system of claim ~~43~~ 37, wherein said parity checking circuit comprises:
a parity generation unit;
a storage unit;
a comparison unit, coupled to said parity generation unit and said storage unit; and

a parity checking control unit, coupled to said parity generation unit, said storage unit and said comparison unit.

45. **(Currently Amended)** The telecommunications system of claim 44, wherein said parity checking control unit is configured to cause said parity generation unit to generate a parity value and to, said parity checking control unit is configured to cause said storage unit to store said backplane parity value, and said comparison unit is configured to compare said parity value and said backplane parity value[[,]] and to indicate an error if said parity value and said backplane parity value do not match.
46. **(Currently Amended)** A method of generating a backplane parity value comprising: for each of a plurality of words in a data stream, determining if said each of said plurality of words should be used to generate ~~included in said generation of~~ said backplane parity value by determining if said each of said plurality of words is a relock word, and excluding said each of said plurality of words from a calculation of said backplane parity value if said each of said plurality of words is determined to be said relock word, wherein at least one of said plurality of words is designated as said relock word, said data stream is to be communicated through a switching matrix of a telecommunications system, and said at least one of said plurality of words allows said switching matrix to be switched without causing disruption of another data stream being communicated through said switching matrix.
47. **(Currently Amended)** The method of claim 46, wherein said relock word is among a plurality of such relock words ~~includes said relock word and~~ said plurality of words includes said plurality of relock words ~~are included in said words.~~

48. **(Currently Amended)** The method of claim 47, further comprising:
generating said backplane parity value using those of ~~said each of~~ said plurality of words
that are determined to be not among said plurality of relock words.
49. **(Previously Presented)** The method of claim 47, further comprising:
inserting said backplane parity value into said data stream; and
communicating said data stream through said switching matrix.
50. **(Currently Amended)** The method of claim 49, further comprising:
switching said switching matrix during a period of time during which said plurality of
relock words traverse said switching matrix.
51. **(Previously Presented)** The method of claim 49, further comprising:
receiving said data stream from said switching matrix;
generating a parity value from said data stream;
comparing said parity value to said backplane parity value; and
generating an error signal if said comparison indicates that said parity value and said
backplane parity value do not match.
52. **(Currently Amended)** The method of claim 46, wherein said plurality of relock words
are configured to allow said telecommunications system to synchronize with said data stream.
53. **(Currently Amended)** The method of claim 46, further comprising:
rearranging said data stream into a second plurality of words, wherein
a plurality of said second plurality of words are designated as relock words, and
said relock word is among said plurality of relock words.
54. **(Currently Amended)** The method of claim 53, wherein said plurality of relock words
are configured to allow said telecommunications system to synchronize with said data stream.

55. **(Currently Amended)** The method of claim 53, wherein
 said plurality of words are organized as a first frame having a first frame format,
 said second plurality of words ~~is~~ are organized as a second frame having a second frame
 format,
 said first frame format is that of a SONET frame, and
 said second frame format is that of an Errorless Switching frame.
56. **(Currently Amended)** A computer program product for generating a backplane parity
 value, said computer program product encoded in computer readable media, said computer
 program product comprising:
 a first set of instructions, executable on a computer system, configured ~~to~~, for each of a
 plurality of words in a data stream, to
 determine if said each of said plurality of words should be used to generate
~~included in said generation of~~ said backplane parity value by determining
 if said each of said plurality of words is a relock word, and
exclude said each of said plurality of words from a calculation of said backplane
parity value if said each of said plurality of words is determined to be said
relock word, wherein
 at least one of said plurality of words is designated as said relock word,
 said data stream is to be communicated through a switching matrix of a
 telecommunications system, and
 said at least one of said plurality of words allows said switching matrix to
 be switched without causing disruption of another data stream
 being communicated through said switching matrix.
57. **(Currently Amended)** The computer program product of claim 56, wherein said relock
word is among a plurality of such relock words ~~includes said relock word~~ and said plurality of
words includes said plurality of relock words ~~are included in said words~~.

58. **(Currently Amended)** The computer program product of claim 57, further comprising:
a second set of instructions, executable on said computer system, configured to generate
said backplane parity value using those of ~~said each of~~ said plurality of words that
are determined to be not among said plurality of relock words.
59. **(Previously Presented)** The computer program product of claim 57, further comprising:
a second set of instructions, executable on said computer system, configured to insert said
backplane parity value into said data stream; and
a third set of instructions, executable on said computer system, configured to
communicate said data stream through said switching matrix.
60. **(Currently Amended)** The computer program product of claim 59, further comprising:
a fourth set of instructions, executable on said computer system, configured to switch
said switching matrix during a period of time during which said plurality of relock
words traverse said switching matrix.
61. **(Previously Presented)** The computer program product of claim 59, further comprising:
a fourth set of instructions, executable on said computer system, configured to receive
said data stream from said switching matrix;
a fifth set of instructions, executable on said computer system, configured to generate a
parity value from said data stream;
a sixth set of instructions, executable on said computer system, configured to compare
said parity value to said backplane parity value; and
a seventh set of instructions, executable on said computer system, configured to generate
an error signal if said comparison indicates that said parity value and said
backplane parity value do not match.
62. **(Currently Amended)** The computer program product of claim 56, wherein said
plurality of relock words are configured to allow said telecommunications system to synchronize
with said data stream.

63. **(Currently Amended)** The computer program product of claim 56, further comprising:
 a fourth set of instructions, executable on said computer system, configured to rearrange
 said data stream into a second plurality of words, wherein
 a plurality of said second plurality of words are designated as relock words, and
 said relock word is among said plurality of relock words.
64. **(Currently Amended)** The computer program product of claim 63, wherein said
plurality of relock words are configured to allow said telecommunications system to synchronize
 with said data stream.
65. **(Currently Amended)** The computer program product of claim 63, wherein
 said plurality of words are organized as a first frame having a first frame format,
 said second plurality of words is are organized as a second frame having a second frame
 format,
 said first frame format is that of a SONET frame, and
 said second frame format is that of an Errorless Switching frame.
66. **(Currently Amended)** A telecommunications system comprising:
 a processor;
 a communications interface, coupled to said processor;
 computer readable medium coupled to said processor; and
 computer code, encoded in said computer readable medium, configured to generate a
 backplane parity value by virtue of being configured to cause said processor to:
 for each of a plurality of words in a data stream,
 determine if said each of said plurality of words should be used to
 generate ~~included in said generation of~~ said backplane parity value
 by determining if said each of said plurality of words is a relock
 word, and
 exclude said each of said plurality of words from a calculation of said
 backplane parity value if said each of said plurality of words is
 determined to be said relock word, wherein

at least one of said plurality of words is designated as said relock word,
said data stream is to be communicated through a switching matrix of a telecommunications system, and
said at least one of said plurality of words allows said switching matrix to be switched without causing disruption of another data stream being communicated through said switching matrix.

67. **(Currently Amended)** The telecommunications system of claim 66, wherein said relock word is among a plurality of such relock words ~~includes said relock word~~ and said plurality of words includes said plurality of relock words ~~are included in said words~~.

68. **(Currently Amended)** The telecommunications system of claim 67, said computer code further configured to cause said processor to:

generate said backplane parity value using those of ~~said each of~~ said plurality of words that are determined to be not among said plurality of relock words.

69. **(Previously Presented)** The telecommunications system of claim 67, said computer code further configured to cause said processor to:

insert said backplane parity value into said data stream; and
communicate said data stream through said switching matrix.

70. **(Currently Amended)** The telecommunications system of claim 69, said computer code further configured to cause said processor to:

switch said switching matrix during a period of time during which said plurality of relock words traverse said switching matrix.

71. **(Previously Presented)** The telecommunications system of claim 69, said computer code further configured to cause said processor to:

receive said data stream from said switching matrix;
generate a parity value from said data stream;

compare said parity value to said backplane parity value; and
generate an error signal if said comparison indicates that said parity value and said
backplane parity value do not match.

72. **(Currently Amended)** The telecommunications system of claim 66, wherein said
plurality of relock words are configured to allow said telecommunications system to synchronize
with said data stream.

73. **(Currently Amended)** The telecommunications system of claim 66, said computer code
further configured to cause said processor to:
rearrange said data stream into a second plurality of words, wherein
a plurality of said second plurality of words are designated as relock words, and
said relock word is among said plurality of relock words.

74. **(Currently Amended)** The telecommunications system of claim 73, wherein said
plurality of relock words are configured to allow said telecommunications system to synchronize
with said data stream.

75. **(Currently Amended)** The telecommunications system of claim 73, wherein
said plurality of words are organized as a first frame having a first frame format,
said second plurality of words ~~is~~ are organized as a second frame having a second frame
format,
said first frame format is that of a SONET frame, and
said second frame format is that of an Errorless Switching frame.

76. **(Currently Amended)** An apparatus for generating a backplane parity value comprising:
means ~~for determining~~, for each of a plurality of words in a data stream,
for determining if said each of said plurality of words should be used to generate
~~included in said generation of~~ said backplane parity value by determining
if said each of said plurality of words is a relock word, and

for excluding said each of said plurality of words from a calculation of said backplane parity value if said each of said plurality of words is determined to be said relock word, wherein
 at least one of said plurality of words is designated as said relock word, said data stream is to be communicated through a switching matrix of a telecommunications system, and
 said at least one of said plurality of words allows said switching matrix to be switched without causing disruption of another data stream being communicated through said switching matrix.

77. **(Currently Amended)** The apparatus of claim 76, wherein said relock word is among a plurality of such relock words ~~includes said relock word and~~ said plurality of words includes said plurality of relock words ~~are included in said words~~.

78. **(Currently Amended)** The apparatus of claim 77, further comprising:
 means for generating said backplane parity value using those of ~~said each of~~ said plurality of words that are determined to be not among said plurality of relock words.

79. **(Previously Presented)** The apparatus of claim 77, further comprising:
 means for inserting said backplane parity value into said data stream; and
 means for communicating said data stream through said switching matrix.

80. **(Currently Amended)** The apparatus of claim 79, further comprising:
 means for switching said switching matrix during a period of time during which said plurality of relock words traverse said switching matrix.

81. **(Previously Presented)** The apparatus of claim 79, further comprising:
 means for receiving said data stream from said switching matrix;
 means for generating a parity value from said data stream;
 means for comparing said parity value to said backplane parity value; and
 means for generating an error signal if said comparison indicates that said parity value and said backplane parity value do not match.

82. **(Currently Amended)** The apparatus of claim 76, wherein said plurality of relock words are configured to allow said telecommunications system to synchronize with said data stream.
83. **(Currently Amended)** The apparatus of claim 76, further comprising:
means for rearranging said data stream into a second plurality of words, wherein
a plurality of said second plurality of words are designated as relock words, and
said relock word is among said plurality of relock words.
84. **(Currently Amended)** The apparatus of claim 83, wherein said plurality of relock words are configured to allow said telecommunications system to synchronize with said data stream.
85. **(Currently Amended)** The apparatus of claim 83, wherein
said plurality of words are organized as a first frame having a first frame format,
said second plurality of words ~~is~~ are organized as a second frame having a second frame
format,
said first frame format is that of a SONET frame, and
said second frame format is that of an Errorless Switching frame.